

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-2 (canceled).

Claim 3 (currently amended): ~~Insert according to claim 1, in which~~ A thread cutting insert (10) including a laterally projecting tooth (40) comprising a front chip cutting and repelling face (41A), delimited by a cutting edge (41A) separating it from a flank area (43, 41F) with a profile (43) having a predetermined first relief angle (D), wherein the tooth comprises, rearwards of a forward volume part (40A) directly supporting the cutting edge (41A) and limited by the flank area (43, 41F) extending over a predetermined thickness (h1), a part (40B) for bracing the forward volume part (40A), having a profile (45, 46; 45, 46'), a rearward portion (46, 46') of which has a second relief angle (F) differing from the first relief angle (D) of the profile (43) of the flank area (43, 41F),

wherein said rearward portion (46, 46') of the profile (45, 46) (45, 46; 45, 46') of the bracing part (40B) connects, at to a back end (44) of the profile (43) of the flank area (40, 41F), by through a curved portion section (45) with a relief angle with a set-back[[,]] having a third relief

angle representing a maximum or minimum value, in relation to the second relief angle of the rearward portion (46, 46') of the profile ~~[(46)]~~ (45, 46; 45, 46') of the bracing part (40B).

Claim 4 (currently amended): ~~Insert~~ The insert according to claim 3, in which said ~~remainder~~ rearward portion (46, 46') of the profile ~~[(46)]~~ (45, 46; 45, 46') of the bracing part (40B) has ~~an average~~ the second relief angle ~~[(E)]~~ that is smaller than the ~~overall~~ first relief angle (D) of the flank area (43).

Claim 5 (currently amended): ~~Insert~~ The insert according to claim 3, in which ~~[[the]]~~ said curved section ~~section of curve~~ (45) ~~with a relief angle with a set-back~~ has a set-back with a lateral extension of between 1 and 50% of a lateral height value of the tooth (40).

Claim 6 (currently amended): ~~Insert~~ The insert according to claim ~~[[1]]~~ 3, in which the profile ~~(33, 43)~~ (43) of the flank area ~~(33, 31F, 43, 41F)~~ (43, 41F) is curvilinear.

Claim 7 (currently amended): ~~Insert~~ The insert according to claim ~~[[1]]~~ 3, in which the forward volume part ~~(30A, 40A)~~ (41A) has a thickness (h1) of between 10 and 50% of a thickness value of the insert.

Claim 8 (currently amended): ~~Insert~~ The insert according to claim ~~[[1]]~~ 3, in which the flank area ~~(33, 31F, 43, 41F)~~ having (43, 41F) has different surfaces extending ~~substantially~~ in respective planes inclined at different bevel angles (B) in relation to a direction of penetration perpendicular to a surface of the work-piece,

~~wherein the first~~ relief angle (D) of the flank area ~~(43, 43F)~~ (33, 33F, 43, 43F) ~~follows an increasing law~~ increases as a function of the bevel angle (B).

Claim 9 (currently amended): ~~Insert~~ The insert according to claim 8, in which the ~~law of growth substantially~~ function of increase represents the sine of the bevel angle (B).

Claim 10 (currently amended): ~~Insert~~ The insert according to claim 8, in which the ~~law~~ comprises function of increase has a minimum threshold constant.

Claim 11 (currently amended): ~~Insert~~ The insert according to claim ~~[[1]]~~ 3, in which the profile ~~(36, 45, 46)~~ (45, 46; 45, 46') of the bracing part ~~(30B, 40B)~~ (40B) corresponds, ~~according to a determined law of resistance to rearward bending due to cutting,~~ to a smooth curve of moment of inertia as to bending (I), as a function of a current height position (X) in the tooth (30, 40), with the smooth curve having breaks of slope limited to an upper threshold value.

Claim 12 (currently amended): ~~Insert~~ The insert according to claim 11, in which the bracing part ~~(30B, 40B)~~ (40B) is connected, at a back end (44) of the profile (43) of the flank area (40, 41F), by a curved section ~~of curve~~ with ~~[[a]]~~ said third relief angle and with ~~[[a]]~~ said set-back (45), having an S-shaped profile, with ends ~~substantially~~ aligned with said back end (44) and the ~~[[rest]]~~ rearward portion (46, 46') of the profile ~~[[(46)]]~~ (45, 46; 45, 46') of the bracing part ~~(30B, 40B)~~ (40B), respectively.

Claim 13 (currently amended): ~~Insert~~ The insert according to claim 11, in which the tooth ~~(30, 40)~~ (40) laterally presents a bevel angle (B) having a ~~determined~~ predetermined widening starting from a beak tip edge ~~[[(32)]]~~ (42), and the bracing part ~~(30B, 40B)~~ (40B) of the tooth ~~(30, 40)~~ (40) comprises two flanks (40BF) with a relief angle (F1) that ~~is variable according to a law of growth varying in the same direction as~~ exhibits a variation along with said widening, and designed to smooth said curve, of moment of inertia (I), by, at least partial, compensation for said widening.

Claim 14 (currently amended): ~~Insert~~ The insert according to claim 13, in which the forward volume part ~~(30A, 40A)~~ (40A) of the tooth ~~(30, 40)~~ (40) has a thickness that ~~is variable~~ varies according to a smoothing ~~[[law]]~~ function designed to compensate, at least partially, for variations in the moment of inertia (I) ~~due to~~ resulting from said widening and ~~to the variable~~

from said variation of the relief angle (F1) of the two flanks (40BF) of the bracing part (~~30B, 40B~~) (40B).

Claim 15 (currently amended): ~~Insert~~ The insert according to claim ~~[[1]]~~ 3, in which the bracing part (~~30B, 40B~~) (40B) stands back laterally, in relation to the forward volume part (~~30A, 40B~~) (40B), corresponding to ~~an average~~ the second relief angle (E, F) which is greater than the ~~overall~~ first relief angle (D) of the flank area (~~33, 31F, 43, 41F~~) (43, 41F).

Claim 16 (currently amended): ~~Insert~~ The insert according to claim ~~[[1]]~~ 3, in which the bracing part (~~30B, 40B~~) (40B) has ~~an average~~ the second relief angle (~~E, F~~) (F) that is less than the ~~overall~~ first relief angle (D) of the flank area (~~33, 31F, 43, 41F~~) (43, 41F).

Claim 17 (currently amended): ~~Insert~~ The insert according to claim 16, in which the average second relief angle (E, F) of the bracing part (~~30B, 40B~~) (40B) is negative so that the bracing part (~~30B, 40B~~) (40B) forms a spur (~~37, 47~~) (47), designed to substantially mate with the curvature of a piece having a cylindrical outer surface on which a positive thread is to be cut, with the spur (~~37, 47~~) (47) extending laterally, towards the piece for positive thread cutting, further than a point of junction (~~34, 44~~) (44) between the flank area (~~33, 31F, 43, 41F~~) (43, 41F) of the forward part (~~30A, 40A~~) (40A) and a corresponding flank area having said profile (~~36, 45, 46~~) (45, 46; 45, 46') of the bracing part (~~30B, 40B~~) (40B).

Claim 18 (currently amended): ~~Insert~~ The insert according to claim 17, in which the spur
(~~37, 47~~) (47) extends laterally, towards the piece for positive thread cutting, further than the
cutting edge (~~31A, 32, 41A, 42~~) (41A, 42).